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Employee Surveys Administered Online

Attitudes Toward the Medium, Nonresponse, and Data Representativeness

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This field study of military and civilian workers offers a multimethod approach for studying nonrespondents while investigating (a) how employees feel about taking surveys online, (b) whether dissatisfaction with Web-based survey media discourages response, and (c) the representativeness of attitudinal data produced by workers who opt to complete an online climate survey. Results suggested that employees were not as comfortable with Web-based surveys as suggested in previous research. Moreover, issues pertaining to the online medium discouraged workers from completing the Web-based climate survey. Additional factors driving active and passive nonresponse were also uncovered. Overall, those who did and did not complete the survey held similar views of organizational climate. Results are discussed in terms of the factors driving nonresponse bias.

Keywords: *employee attitudes; Internet; nonresponse bias; online personnel surveys; survey response rates*

Recent years have witnessed an increase in the popularity of employee attitude surveys (Church & Waclawski, 1998; Kraut, 1996), a shift from paper to Web-based survey administration procedures (Thompson, Surface, Martin, & Sanders, 2003), and a reported decline in response rates (Baruch, 1999; Schwartz, Groves, & Schuman, 1998). Are these trends related? Some have argued that a negative aspect of the newfound ease of Web-based survey administration is the potential for oversurveying (Tippins, 2002), which may adversely affect the workforce's inclination to accept and complete questionnaires (Goyder, 1986; Luong & Rogelberg, 1998; Rogelberg, Fisher, Maynard, Hakel, & Horvath, 2001). One might further postulate that employees who dislike the prospect of taking surveys online are contributing to the mounting nonresponse problem.

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Although the Internet has become a popular medium for data collection, research is needed to test its benefits and obstacles (Gosling, Vazire, Srivastava, & John, 2004). At present, there is a shortage of work examining the antecedents and consequences of workers' failure to respond to the increasingly popular Web-based employee survey. The current investigation addresses this gap in the literature. The purpose of this study is to determine how employees feel about taking their surveys online and to test whether dissatisfaction with Web-based survey media discourages response. In addition, the consequences of nonresponse are examined by looking at the representativeness of the attitudinal data produced by personnel who choose to complete a Web-based survey for their organization.

Web-Based Surveys and Employee Concerns

The advantages of Web-based questionnaires are many and well documented (e.g., Dommeyer & Moriarty, 2000; Falletta & Combs, 2002; Sheehan, 2001; Sheehan & McMillan, 1999; Yost & Homer, 1998). Nevertheless, there are compelling reasons why some employees may dislike taking their surveys online. These include a lack of bandwidth, access to reliable technology needed to easily complete the survey, computer literacy, data quality/security, and anonymity (Thompson et al., 2003). Several authors have emphasized that privacy is a fundamental concern with online surveys (Cho & LaRose, 1999; Roztocki & Lahri, 2003). Research by Roztocki and Lahri (2003) suggests that anonymity perceptions are unrelated to survey respondents' computer literacy levels.

How pervasive are concerns specific to the online survey modality? Thompson et al. (2003) touched on this issue by asking personnel to complete an online follow-up assessment after their organization's climate survey was shifted from paper to the Web. Results showed that an overwhelming majority (more than 80% of respondents) expressed satisfaction with the online format. Although these results seem encouraging, the authors advised readers to interpret them with caution. They noted that the very technology problems or principles that caused some workers to dislike online surveys may have prevented the same individuals from participating in the Web-based follow-up assessment of employees' attitudes toward the online format. In light of this limitation, the present study uses alternative methods to examine the attitudes of employees who have been asked to take online surveys for their organization.

Research Question 1: To what degree do people dislike taking employee surveys online?

Implications for Nonresponse

Does it matter if employees dislike taking their surveys online? Research is needed to answer this question. If dissatisfaction with Web-based surveys discourages response, then there is cause for concern. If those who fail to respond because of the survey medium hold distinct attitudes on survey-relevant variables, then additional problems are likely. Whereas the former issue concerns response rates, the latter deals with data representativeness. Both of these matters need to be considered.

The response rate concern can be examined by investigating the sources of online survey nonresponse and identifying whether issues specific to the online modality emerge as

response deterrents. In general, the sources of nonresponse can be either active or passive in nature (Rogelberg et al., 2003). Passive nonresponse occurs because of happenstance and is not based on an overt decision to withhold participation. Reasons for passive survey nonresponse cited in the literature include extraneous and situational factors such as staff turnover, sickness absence, maternity leave, redeployment, internal address errors, postal losses, and heavy workload. Employees who do not participate because they lost their survey and/or forgot about the survey are also considered passive nonrespondents (Rogelberg et al., 2003).

In contrast, active nonresponse stems from a conscious decision not to participate as soon as the survey is received. Active nonrespondents do not simply forget to take the survey. Rather, they have a reason for purposefully withholding their participation. For example, personnel may deliberately withhold their participation when they feel the survey will not result in meaningful action and change (Newell, Rosenfeld, Harris, & Hindelang, 2004; Rogelberg, Luong, Sederburg, & Cristol, 2000). Newell et al. (2004) examined this issue by mailing a paper follow-up survey to a sample of Navy personnel who had been invited to participate in an earlier paper survey concerning equal opportunity/sexual harassment. The follow-up survey asked respondents, "Why do you think response rates on Navy surveys have been declining?" The top two reasons were the belief that surveys have no impact and apathy toward surveys.

Because it focused on evaluations of a paper survey process, Newell et al.'s (2004) research was unable to address whether the online survey medium deters response. Speculation would suggest that an online modality may lead to both active and passive nonresponse. Specifically, it is possible that disdain for the online survey medium may be a source of active nonresponse. Concerns about anonymity, data quality, and security could drive a purposeful decision to withhold participation in a Web-based organizational survey. In 2000, Yun and Trumbo found that survey respondents with relatively unfavorable attitudes toward the Web as a professional development tool were particularly inclined to choose a paper survey modality over an electronic alternative. Other research shows that satisfaction with an online survey process significantly predicts the stated willingness to respond to electronic questionnaires in the future (Thompson et al., 2003).

In addition, technology-driven passive nonresponse could result from computer illiteracy, lack of access to technology, transmission errors, and technological glitches that prevent otherwise willing employees from completing and sending their input. Raziano, Jayadevappa, Valenzuela, Weiner, and Lavizzo-Mourey (2001) administered an Internet/e-mail survey to 57 chiefs from different geriatric medical divisions and teaching programs. Six individuals did not respond to the e-mail survey but completed a paper-and-pencil version mailed to them later. When a telephone interview was used to ask them why they did not complete the e-mail survey, all six individuals indicated technology problems (e.g., lack of access to e-mail, lack of Internet savvy).

Research by Mertler (2003) provides evidence that issues specific to the online survey medium can lead to both active and passive nonresponse. Mertler (2003) sent teachers who failed to respond to a Web-based questionnaire an e-mail survey that asked recipients to select the main reason for their nonresponse from a list of seven options. Twenty-one percent of the sample replied. Of these, 24% expressed access difficulties, and 4% indicated security/confidentiality concerns. Because this follow-up questionnaire was administered

online, the preceding percentages may, in fact, underestimate the degree to which Internet-specific response deterrents occur. The connectivity issues and confidentiality concerns preventing people from filling out the first survey may have similarly dissuaded participation in the second survey.

Clearly, further research is needed to better understand whether issues related to online survey media discourage participation. Because no single research methodology can provide definitive answers to empirical questions (Rogelberg et al., 2000), the present study uses both qualitative and quantitative techniques to explore attitudes toward Web-based surveys and their relationship to response.

Research Question 2: Do reactions to the online medium deter survey participation?

It is important to note that an affirmative answer to the preceding research question does not imply that Internet surveys necessarily yield lower response rates than a paper alternative. In fact, there may be issues specific to the paper survey modality (e.g., the hassles of mailing a completed packet back to the survey sponsor) that lead to passive and active non-response when nonelectronic survey media are not used. Rather than comparing paper and online survey response rates, the present study looks at reactions to Internet surveys in and of themselves. This line of inquiry has practical implications. It is not uncommon for today's organizations to rely solely on the Internet to collect survey data. However, if reactions to the online survey modality discourage participation, then making a paper alternative available, in addition to the Web-based survey, should increase overall response rates.

Data Representativeness

In short, overall response rates will suffer to the extent that negative reactions to online surveys are pervasive (Research Question 1) and discourage participation (Research Question 2). Poor response rates, in turn, can cause a variety of problems (Luong & Rogelberg, 1998; Rogelberg & Luong, 1998; Rogelberg et al., 2000). Perhaps the most serious concern is nonresponse bias, which occurs when survey requests are ignored by large numbers of employees who differ from respondents in meaningful ways. In the context of a Web-based climate survey, for example, the results will be skewed if those who complete the online questionnaire hold different views of the organization's climate than do those who withhold their responses.

In 2000, Rogelberg and his colleagues examined nonresponse bias by studying "non-compliers" who explicitly refused to take a satisfaction survey for their employers. Compared with people who indicated a willingness to participate in organizational surveys, noncompliers were shown to be less committed to their organizations, less satisfied with their supervisors and jobs, and more likely to quit. Noncompliers were also more inclined to believe that their employer would not act on survey data collected.

Follow-up work by Rogelberg et al. (2003) examined undergraduates' responses to a paper-and-pencil survey. Respondents were compared with those who failed to participate after stating that they would (passive nonresponse) or would not (active nonresponse) take part in the survey. Only active nonrespondents (who comprised a relatively small segment of those studied) were less satisfied with the university administration than respondents.

Overall, respondents were more agreeable and conscientious than the population as a whole. However, respondents were no more satisfied with the university administration when compared to the overall population. The representativeness of the respondents' satisfaction data probably occurred because most of the nonparticipants were passive nonrespondents. Although passive nonrespondents (e.g., those who lost the survey or forgot to take it) may have been relatively low in terms of conscientiousness, they were similar to respondents in terms of their attitudes toward the university administration. Thus, respondents' attitude data generalized well to the broader population.

No past studies have examined the representativeness of data produced by a Web-based survey sample to determine whether it reflects the sentiments of the population as a whole (including those who refuse to take online surveys). In fact, there is a distinct lack of research addressing whether data gathered from any kind of employee survey, regardless of the medium, are representative of the underlying workforce population. This is not a trivial issue. Out of necessity, organizational researchers and practitioners must rely on data from the subset of employees who self-select into the sample by opting to complete voluntary surveys. Is it reasonable to generalize these data to the entire workforce? Our final research question looks into this issue.

Research Question 3: Do online survey respondents and nonrespondents differ in their perceptions of organizational climate?

Notably, addressing the preceding research question and the other topics in this study requires knowledge of nonrespondents' attitudes. Studying nonrespondents is a difficult, paradoxical task, and substantial limitations plague the methods commonly available for investigating this elusive group of people (Rogelberg et al., 2003). In examining the research questions outlined above, the present study offers a multimethod approach for studying nonrespondents, which avoids some of the pitfalls inherent in other studies.

Method

Participants

The study sample consisted of computer-savvy employees working at the headquarters of a military organization. This organization included various directorates/departments (i.e., functional groups such as personnel management). The employees, 48% of whom were civilians, were responsible for providing support to operational units distributed across many locations.

Climate Survey Background Information

In October 2003, the entire workforce was asked to anonymously complete a recurrent Web-based climate survey administered every 1 to 2 years. Respondents indicated their level of agreement with various items on a 5-point Likert-type scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Higher ratings reflected greater levels of satisfaction,

and ratings were averaged to produce a dimension score for each of the seven areas: Overall Satisfaction (5 items, $\alpha = .86$), Immediate Supervision (10 items, $\alpha = .96$), Senior Leadership (7 items, $\alpha = .94$), Training and Development (6 items, $\alpha = .85$), Personnel Management (17 items, $\alpha = .95$), Team Cohesion (7 items, $\alpha = .88$), and Communications (8 items, $\alpha = .88$).

A total of 297 employees (39% of the workforce) participated in the survey. This response rate was atypically low and disappointing when compared with the participation rates obtained during earlier climate survey initiatives. The organization therefore commissioned a study of survey nonresponse. As described next, a follow-up questionnaire and focus groups allowed us to compare the attitudes of those who did and did not participate in the 2003 climate survey. These follow-up data were used to examine the present study's research questions.

Organization-Wide Online Survey Process Questionnaire

In March and April of 2004, a brief, online follow-up questionnaire was administered to assess workers' perceptions of the climate survey process. All employees were asked to complete this survey process questionnaire regardless of whether they had responded to the October 2003 climate survey.¹ The number of respondents ($N = 301$) was nearly identical to the number of employees who participated in the October 2003 climate survey.

The questionnaire contained items addressing satisfaction with the survey process, attitudes toward the online methodology, intentions to participate in the future, reasons for nonresponse, and demographics. Participants were asked whether they worked for the organization in 2003 and whether they completed the 2003 climate survey. Those who did not complete the 2003 climate survey were asked to indicate their reasons for nonparticipation. A list of 10 potential nonresponse rationales was presented along with an "other" option and a space to enter reasons not listed. The 10 nonresponse reasons presented on the survey are paraphrased as follows: (a) waste of time because nothing is done with results, (b) was concerned response would be traced back to me, (c) the survey didn't ask the right questions, (d) satisfied with the way things are and therefore didn't see a need to respond, (e) too busy to complete, (f) traveling for work/out sick/on leave/away from office, (g) not aware/never received it, (h) probably thought it was organizational spam and deleted it, (i) accidentally forgot to finish it, and (j) computer problems. Respondents were instructed to select all options that applied (i.e., they were allowed to select more than one option if they had more than one reason for nonparticipation).

Directorate X Focus Groups

In May 2004, a focus group study targeting one department (i.e., "directorate") was conducted to examine nonresponse and climate within that department. Like the other directorates in the organization, this group (hereafter referred to as "Directorate X") was given the opportunity to assess climate via the October 2003 survey; however, only 24% of the employees in the directorate responded, causing Directorate X leaders to question the credibility of the findings and request a reexamination of the climate within the group.

Directorate X was one of the larger departments in the organization. It consisted of 100 employees, not counting contractors and high-level senior leaders. Approximately 75% of these employees were men, and about 55% were civilians. At the time of this study, 15 individuals

were away on preapproved leave (e.g., attending training out of town). The remaining 85 were scheduled to attend a focus group during regular working hours. Because all eligible Directorate X members were expected to attend their scheduled focus group meeting, the potential for learning the views of active nonrespondents made this a good opportunity to understand survey nonparticipation.

One focus group consisting of five supervisors and seven additional focus groups consisting of 7 to 11 employees each were conducted over a period of 6 days. Seventy-three (86%) of the 85 eligible personnel attended. The 12 remaining workers were absent because an outside supervisor called them away for a time-sensitive assignment at the last minute ($n = 4$), they were out sick/had a doctor's appointment ($n = 5$), they were turned away because the meeting room was full ($n = 1$), or for other unknown reasons ($n = 2$). Of those who attended, 75% were men, and about 53% were civilians. In short, the focus groups included the majority of the directorate, the sample was representative of the overall work group, and nonattendance was seemingly unrelated to the issues investigated in this study.

The focus groups were conducted by one moderator and one note taker. Each session was 2 to 3 hours in length. At the beginning of each meeting, a paper-and-pencil version of the climate survey was passed out to all participants. It contained all of the climate survey items administered in October of 2003 as well as a few additional items. This survey also asked respondents to indicate whether they participated in the 2003 climate survey. The demographic questions normally appearing on the climate survey were removed from this questionnaire to assure anonymity. Participants were informed that the survey was voluntary, and they were encouraged to simply read over the items and take notes on which points they wanted to discuss if they did not wish to complete the survey during the meeting. All of the focus group participants opted to complete the survey.

Responses were entered and processed in real time. While the data were being processed, focus group members completed a follow-up worksheet. All but one focus group member completed this measure, which used an open-ended format to ask participants why they thought so many people in the organization did not complete the October 2003 climate survey. After participants finished filling out these worksheets, the moderator led a discussion of climate and the reasons for nonresponse while the note taker took detailed notes on the issues raised during the discussion.

It should be noted that both the climate survey and the follow-up worksheet were completed before any discussion among participants occurred. In addition, special care was taken to maximize candor during the focus group discussions. First, employees and supervisors were scheduled for separate meetings to help prevent personnel from feeling pressured by higher status individuals. Second, to the extent possible, employees within the same work-group were scheduled for separate meetings to promote confidentiality. Third, and finally, no names were used during the focus group meetings (although last names were apparent for those wearing a uniform). The moderator, who did not ask for identities, explicitly instructed participants to avoid using names during the discussion. Moreover, the moderator and note taker were unknown to the focus group participants (i.e., there were no prior relationships).

In sum, this study used a multimethod approach to collect different types of data from the workforce. The goal was to present a more complete picture of nonresponse than could be obtained from any single method alone. Table 1 summarizes the data collection involved in this study.

Table 1
Data Collection Summary

Date	Population	Response Rate	Construct	Method	Data Type	Research Questions Addressed
October 2003 March-April 2004	Entire organization Entire organization	39% (<i>n</i> = 297) ~40% ^a (<i>n</i> = 301)	Climate	Online survey	Quantitative	N/A 1, 2
			Survey process perceptions	Online survey	Quantitative	
May 2004	Directorate X	86% of eligible personnel (<i>n</i> = 73)	Nonresponse reasons	Online survey	Qualitative	2
			Climate	Paper survey	Quantitative	3
			Survey process perceptions	Paper survey	Quantitative	1, 2
			Nonresponse reasons	Paper survey	Qualitative	2
			Nonresponse reasons	Focus group discussions	Qualitative	2

a. Total workforce numbers are unavailable for the March-April 2004 time period. The 40% response rate shown above is based on an estimated population size.

Results

Research Question 1

The first research question sought to investigate the degree to which people dislike taking employee surveys on the Web. This attitude was assessed via an item that asked participants to use a 1 (*strongly disagree*) to 5 (*strongly agree*) scale to rate their responses to the following statement: "I like taking the command climate survey via the Web." This item was included on the online survey process questionnaire (administered organization wide) as well as the paper survey process questionnaire (administered to Directorate X focus group members).

For ease of presentation, we collapsed the 5-point scale into three categories: *disagree* (the bottom two scale options), *neutral* (the midpoint of the rating scale), and *agree* (the top two scale options). As shown in Table 2, the online survey process questionnaire revealed that only 8% (of both respondents from the entire organization and Directorate X) disapproved of the Web-based format. In contrast, the paper survey administered during the Directorate X focus groups indicated 37% disapproval. This rather large difference (8% dissatisfaction expressed online versus 37% dissatisfaction expressed on paper) suggests that the Web-based methodology attracts respondents whose attitudes toward Internet surveys are not representative of the broader population. The result is an inflated estimate of workers' approval of Web-based survey methods. If Directorate X generalizes to the broader organization, the paper survey data summarized in Table 2 suggest that a sizable proportion of the workforce may, in fact, dislike taking their surveys online.

Research Question 2, Quantitative Analysis

Research Question 2 addressed whether reactions to the online medium deterred survey participation. As shown in Table 1, both quantitative and qualitative approaches were used to examine this question. The quantitative analysis involved examining whether disapproval of the online survey modality predicts past participation in Web-based surveys as well as commitment to participating in future online surveys. The qualitative analysis examined workers' reasons for nonresponse to identify whether any of them are specific to the online survey modality.

We began by comparing climate survey respondents' and nonrespondents' satisfaction with the online survey medium. Those who completed the organization-wide online survey process questionnaire were asked to indicate whether they (a) participated in the 2003 climate survey, (b) did not participate in the 2003 climate survey, or (c) did not work for the organization during the 2003 climate survey. Individuals who chose the first option were considered respondents, those who chose the second option were considered nonrespondents, and those who chose the third option were eliminated from the data set during the examination of Research Question 2. As noted earlier, the online survey process questionnaire asked participants to rate their satisfaction with the Web format via the item shown in Table 2's title. Analyses revealed that climate survey respondents ($M = 4.14$, $SD = .98$, $n = 194$) expressed more favorable attitudes than nonrespondents ($M = 3.68$, $SD = 1.08$, $n = 77$). Even with the restriction of range on the attitudinal predictor, a logistic regression

Table 2
Responses to the Following Item: “I Like Taking the
Command Climate Survey via the Web.”

	Level of Agreement			Totals <i>N</i>	<i>M</i> (<i>SD</i>)
	Disagree <i>n</i> (%)	Neutral <i>n</i> (%)	Agree <i>n</i> (%)		
Online Survey Process					
Questionnaire					
Entire organization	22 (8%)	44 (15%)	225 (77%)	291	4.01 (1.02)
Directorate X	3 (8%)	8 (21%)	28 (72%)	39	3.90 (1.12)
Paper questionnaire					
(administered during focus groups)					
Directorate X	22 (37%)	11 (19%)	26 (44%)	59	3.05 (1.31)

Note: Missing data are due, in part, to N/A responses produced by individuals with no experience taking the climate survey via the Web. The original 5-point scale was collapsed into three categories for ease of presentation. Percentages provided in parentheses are based on the total number of responses to the question, which appears in the same row. Percentages are rounded to the nearest whole number and do not consistently total to 100 because of rounding error.

showed that satisfaction with the online format significantly predicted participation in the 2003 Web-based climate survey (Wald = 10.53, $p < .001$, Nagelkerke $R^2 = .06$).

Next, we reexamined Research Question 2 via Directorate X's paper focus group questionnaire data. This instrument asked the same Web-based survey satisfaction question that predicted participation in the analysis above. To avoid the problems associated with single-item predictors, we added a second question to the Directorate X paper survey. It asked respondents to use a 1 (*strongly disagree*) to 5 (*strongly agree*) scale to rate the following item: “The online survey is a useful way to complete the command climate survey.” Responses to the two items ($\alpha = .92$) were averaged.

In two different places on the paper questionnaire, Directorate X employees were asked to indicate whether they participated in the 2003 climate survey. Twenty-nine of the 73 participants were dubbed nonrespondents because they stated they did not take the 2003 survey. In addition, 29 were labeled respondents because they said they did participate in the 2003 survey.² Eight people stated they were newcomers who did not work for the organization at that time. Seven individuals did not answer consistently when asked about their participation twice (e.g., they first stated they did complete the 2003 survey and later indicated they did not). These latter 15 cases were eliminated from the data set prior to examining Research Question 2.

The Directorate X employees who reported responding to the 2003 climate survey rated their satisfaction with the Web format ($M = 3.56$, $SD = 1.19$, $n = 29$) higher than did nonrespondents ($M = 2.76$, $SD = 1.30$, $n = 29$). A logistic regression confirmed that satisfaction with the online format significantly predicted Directorate X members' participation in the 2003 Web-based climate survey (Wald = 4.52, $p = .03$, Nagelkerke $R^2 = .13$).

We also examined whether satisfaction with the online format predicted commitment to future participation. The paper questionnaire administered during the focus groups asked Directorate X employees to use a no/maybe/yes scale to indicate whether they planned to complete the next online climate survey. Sixty-seven of the 73 focus group members answered this question. The 47 individuals who were committed to taking the next survey (i.e., those who said “yes”) were compared with the 20 who did not commit to future participation (i.e., the 5 who said “no” plus the 15 who said “maybe”). Analyses revealed that satisfaction with the online format significantly predicted employees’ commitment to participating in the next climate survey (Wald = 9.97, $p = .002$, Nagelkerke $R^2 = .26$). Compared with those who were less committed to participating in the future ($M = 2.25$, $SD = 0.94$, $n = 20$), workers who planned to take the next survey ($M = 3.44$, $SD = 1.21$, $n = 47$) liked the Web-based format more.

Research Question 2, Qualitative Analysis

Our next step in examining Research Question 2 involved an analysis of three different qualitative data sets. First, the organization-wide, online survey process questionnaire asked the 81 employees who were with the organization but did not complete the 2003 climate survey to select their reasons for nonresponse from a list of 10 options. They were allowed to select more than 1 option if they had more than one reason, and they were asked to select “other” and type additional reasons if their rationale was not on the list. Eighty of the 81 eligible employees provided one or more reasons. Each option on the list was selected at least once. In addition, 18 people provided an “other” reason. These were classified into existing categories or placed into new ones, depending on their content. Table 3 provides a complete list of the nonresponse rationales and shows the number of times each was cited. Because workers were allowed to offer more than one nonresponse rationale, the number of nonresponse reasons provided ($n = 124$) exceeds the number of people ($n = 80$) who answered this question.

Second, the Directorate X paper questionnaire asked all 73 of the focus group members to write down the reasons why they thought so many people in the organization did not respond to the 2003 climate survey. The question was open-ended; there was no list of reasons from which to choose. Sixty-nine of the 73 focus group members offered one or more reasons, which were classified into existing categories or placed into new ones, depending on their content.

The results are shown in Table 3. Because workers were allowed to offer more than one nonresponse rationale, the number of nonresponse reasons provided ($n = 82$) exceeds the number of people ($n = 69$) who answered this question.

Third and finally, Directorate X employees were asked to discuss the reasons for nonresponse during their focus group meetings. They were not prompted to provide any particular reasons but were free to offer any thoughts they had regarding why the 2003 climate survey response rate was low. Table 3 indicates which nonresponse topics were raised during the course of those discussions.

It should be noted that we purposefully and explicitly asked Directorate X members, both on paper and during the discussions, to describe why *people* in the organization did

Table 3
Reasons for Nonresponse to the 2003 Climate Survey

Nonresponse Rationale	Nonresponse Category	Climate Attitude Implied by Nonresponse Rationale	Online Survey	Paper	Focus Group
			Process Questionnaire: Entire Organization	Questionnaire: Directorate X	Discussion: Directorate X
			<i>n</i> (%)	<i>n</i> (%)	Issue Raised During Group Discussion?
Waste of time because nothing is done with results	Active	Negative	16 (13)	42 (51)	Yes
Was concerned response would be traced back to me ^a	Active	Negative	7 (6)	7 (9)	Yes
Too busy to complete ^b	Active	Neutral	28 (23)	16 (20)	Yes
Disliked survey (too long; didn't ask the right questions)	Active	Neutral	5 (4)	0 (0)	No
New to organization with nothing valid to offer	Active	Neutral	4 (3)	0 (0)	No
Thought survey was intended for other workers	Active	Neutral	2 (2)	0 (0)	No
Didn't realize senior leader wanted me to fill it out	Active	Neutral	1 (1)	5 (6)	Yes
Satisfied with the way things are therefore didn't see need to respond	Active	Positive	23 (19)	0 (0)	No
Traveling for work/out sick/on leave/away from office	Passive	Neutral	22 (18)	8 (10)	Yes
Not aware/never received it/probably thought it was organizational spam and deleted ^a	Passive	Neutral	10 (8)	2 (2)	Yes
Accidentally forgot about it	Passive	Neutral	5 (4)	0 (0)	No
Computer problems ^a	Passive	Neutral	1 (1)	2 (2)	Yes
Totals			124 (100)	82 (100)	Frequencies not tallied

Note: Percentages in parentheses are based on the column totals indicating the number of nonresponse rationales provided.

a. This source of nonresponse is presumably due to the online survey modality.

b. There was some discussion among the authors regarding whether this source of nonresponse was passive or active in nature.

not respond to the survey. Our intent was to phrase the query in a manner that would reduce self-presentation concerns and increase candor. Given the relatively small size of each focus group, we were concerned that inhibitions would prevent personnel from confessing why they themselves did not respond to the 2003 climate survey. We felt that more useful information would be obtained by creating an environment in which employees could disassociate themselves with their reasons for nonresponse if they chose to do so.

To address Research Question 2, we were particularly interested in whether any of the reasons given suggested that the Web-based survey method discouraged participation. Three modality-related reasons surfaced, and all of them emerged during each of the three qualitative data collection efforts. The most pervasive of the three concerns involved anonymity. As shown in Table 3, participants indicated a conscious decision to withhold participation (active nonresponse) because of an apprehension that responses could be traced back to them. This active nonresponse rationale was driven by mistrust; as such, it implied a negative climate attitude. Although we do not know the base rate of paper survey respondents with anonymity concerns, the focus group discussions suggested that, at least for some personnel, the fear of being identified was certainly tied to the online survey modality. It was difficult for some employees to believe that their online responses would not be traced back to them, especially when they work in an organization that openly monitors Web usage. Moreover, many of the employees in this organization work in cubicles. Several personnel reported a concern that people walking behind them could see their computer monitors while they were completing the survey. These employees reported liking paper surveys better because it was easier to fill out paper surveys at home or in private. As noted below, completing the online survey while out of the office posed problems for some individuals.

The second modality-related nonresponse factor involved computer problems. This passive nonresponse rationale appeared largely unrelated to climate attitudes (i.e., it was neutral in tone). The focus group meetings suggested that computer problems were more of an issue for people out of the office than for those located on site. Some Directorate X employees complained about the difficulty or impossibility of remotely logging into the secure organizational network on which the survey resided.

The third modality-related nonresponse factor involved the failure to notice the survey (i.e., mistaking it for organizational spam). Again, this passive nonresponse rationale was considered neutral in tone because it did not appear to reflect any particular attitude about organizational climate. Like many workplaces, the organization under investigation has a "clearinghouse" of sorts, through which organization-wide e-mail messages must channel. The result is that a large number of e-mail messages are sent, daily, by a single individual working in the clearinghouse. Although these messages are sent to everyone in the organization, many of them are relevant to only small segments of the population. Therefore, some personnel have become desensitized to them, automatically deleting the messages without reading them. Because the climate survey announcement and link were sent through this clearinghouse, some employees were certain they deleted the survey link without seeing it. Admittedly, people may also mistake important paper communiqués for "junk mail." Nevertheless, the issue of batch deletions is somewhat specific to the online modality.

In sum, three quantitative analyses from two different surveys (one online, one paper) as well as three qualitative data collection efforts provided a consistent answer to Research Question 2: Adverse reactions to the online medium have negative implications for Web-based survey response rates.

Table 4
Directorate X: Climate Perceptions and Their Relationships With Past Survey Participation and Commitment to Completing Future Surveys

Climate Dimension	Self-Reported Participation in 2003 Online Climate Survey ^a		Intentions to Participate in Next Online Climate Survey ^b	
	Respondent (<i>n</i> = 29)	Nonrespondent (<i>n</i> = 29)	More Committed (<i>n</i> = 45)	Less Committed (<i>n</i> = 19)
	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)
Job satisfaction	3.69 (0.92)	3.88 (0.73)	3.78 (0.86)	3.68 (0.68)
Immediate supervision	3.80 (0.81)	3.93 (0.80)	3.73 (0.78)	3.96(1.04)
Senior leadership	3.03 (0.91)	3.34 (0.76)	3.36 (0.86)	2.97 (0.95)
Training and development	3.85 (0.60)	4.00 (0.75)	3.88 (0.64)	3.95 (0.77)
Personnel management	3.37 (0.69)	3.61 (0.69)	3.53 (0.72)	3.33 (0.75)
Team cohesion	3.18 (0.76)	3.51 (0.65)	3.46 (0.72)	3.31 (0.85)
Communications	3.02 (0.75)	3.18 (0.60)	3.23 (0.69)	2.94 (0.74)

a. A nonsignificant discriminant function analysis of these data indicated that there were no reliable differences between respondents' and nonrespondents' climate satisfaction levels.

b. A nonsignificant discriminant function analysis of these data indicated that those committed to taking the next online climate survey were neither more nor less satisfied with organizational climate than their less committed counterparts.

Research Question 3

Research Question 3 addressed the issue of nonresponse bias by examining whether Directorate X members who did and did not choose to respond to the 2003 online climate survey held different perceptions of organizational climate. To study this possibility, we computed the dimension-level satisfaction that Directorate X members expressed on the paper climate survey administered during the focus groups. We then looked at whether satisfaction with the organization's climate predicted Directorate X members' stated participation in the past 2003 survey. A discriminant function analysis was employed to examine this issue. The seven climate survey dimensions shown in Table 4 served as predictors (discriminating variables), and response/nonresponse to the 2003 climate survey was included as the dependent (classification) variable. The results of this analysis were not significant, $\chi^2(7, n = 56) = 3.37, p = .849$. Thus, there were no reliable differences between respondents' and nonrespondents' climate satisfaction levels (which are summarized in Table 4). This finding indicates that despite Directorate X's low participation rate in the 2003 climate survey, nonresponse bias did not occur.

As a follow-up, a supplementary discriminant function analysis was conducted to examine whether satisfaction with the organization's climate (expressed on the paper climate survey administered during the focus groups) predicted Directorate X members' commitment to participating in future online climate surveys. Again, the discriminant function was not significant, $\chi^2(7, n = 64) = 9.42, p = .224$. Those committed to taking the next online climate survey were neither more nor less satisfied with the organizational climate than their less committed counterparts. See Table 4 for the mean climate satisfaction levels expressed by employees who did and did not commit to future participation.

Discussion

This study addressed several fundamental issues related to online surveys and nonresponse. First, Research Question 1 examined the degree to which people dislike taking employee surveys online. Past work by Thompson et al. (2003) indicated that more than 80% of those polled expressed satisfaction with online survey methodologies. However, the authors used an online survey to collect their data and therefore urged readers to interpret this estimate with caution. The present study used both online and paper surveys to reexamine the issue. In our online survey process questionnaire, only 8% (of both respondents from the entire organization and Directorate X) reported dissatisfaction with Web-based surveys. However, on the paper survey completed during the Directorate X focus group meetings, 37% of the respondents expressed dissatisfaction. This suggests that employees may not be as comfortable with Web-based surveys as suggested by Thompson et al.'s (2003) earlier work. From a methodological standpoint, these data also indicate that employees who do and do not choose to respond to an online survey represent different "Do I like online surveys?" populations. The result is nonresponse bias when Internet surveys are used to assess satisfaction with Web-based survey methodologies. Future research should avoid using data collected online to estimate approval of online surveys.

Overall, the pattern of results addressing Research Question 2 indicated that aversions to online surveys can have some unfortunate consequences. In our study sample, they appear to have deterred past participation for some employees. Moreover, the data reflecting respondents' later participation intentions suggest they will also discourage individuals from filling out online climate surveys in the future.

On the whole, the findings addressing Research Question 3 were somewhat more encouraging. Although accepting a null hypothesis of "no difference" is problematic, the pattern of results indicates that Directorate X employees who did and did not take the online climate survey in 2003 hold similar climate perceptions. Thus, the findings suggest that the climate data produced by the small number of Directorate X respondents in 2003 were, in fact, representative of the overall directorate's attitudes. If our focus group members' stated commitment to completing the next survey accurately forecasts their forthcoming participation behaviors, then the results also imply that the next climate survey sample will accurately reflect the sentiments of the overall directorate, despite a lack of participation from those who indicated they will not/may not fill out the next survey. The data suggest that this lack of nonresponse bias (i.e., data representativeness) within Directorate X should occur on the next climate survey even if response rates are low, and even though the Web-based format will dissuade some workers from participating.

Active Versus Passive Nonresponse

Rogelberg et al. (2003) have urged researchers to examine the theoretical underpinnings of active and passive nonresponse and explore possible subclasses of nonresponse within these two broad categories. To this end, Table 3 reveals some interesting trends. All of the passive nonresponse factors were neutral. That is, the factors driving passive nonresponse to the climate survey were seemingly unrelated to climate attitudes. Conversely, attitudinal variation existed within the active nonresponse category. As shown in Table 3, active

nonresponse was not always driven by dissatisfaction with the organization. In fact, for some of the employees in our study, it was prompted by *favorable* attitudes. That is, some of our respondents indicated that they consciously chose to withhold participation because they were “satisfied with the way things are and therefore didn’t see a need to respond.”

Factors Driving Nonresponse Bias

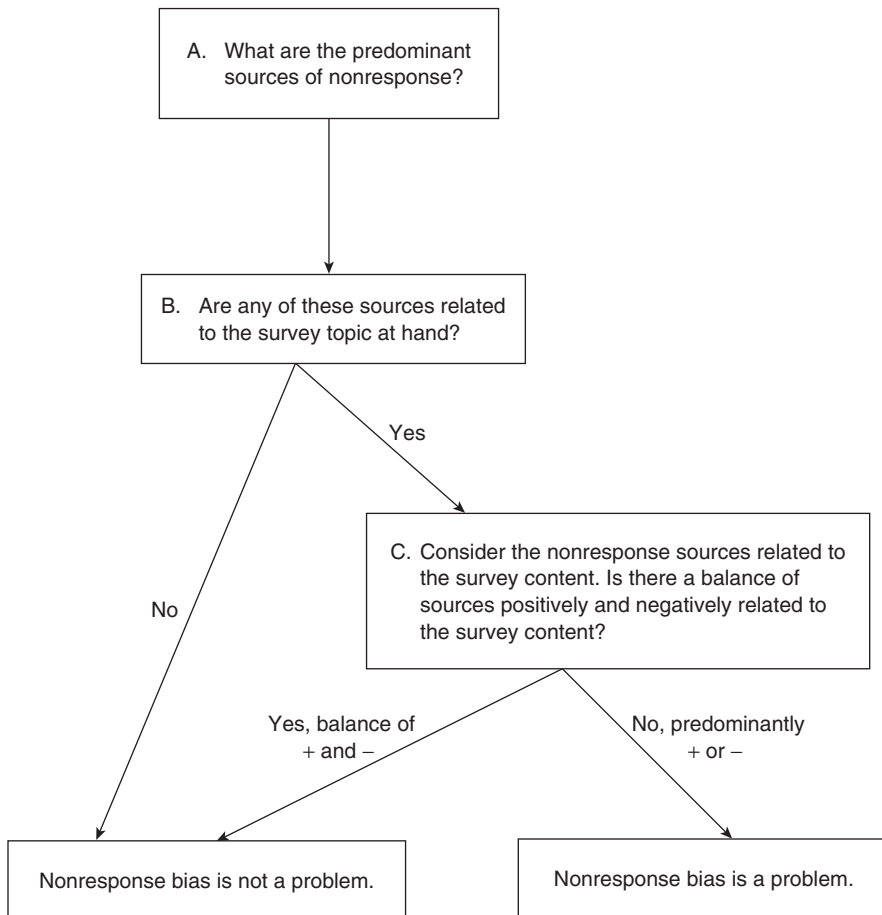
The lack of nonresponse bias characterizing our climate survey results can be placed in the context of other work examining the representativeness of data produced by survey volunteers. Research has demonstrated that students who express an *a priori* refusal to participate in surveys are less satisfied with their university administration when compared with those who later comply with a survey request (Rogelberg et al., 2003). Moreover, “non-compliant” workers who imagine they would refuse to complete surveys for their employers, if asked, hold relatively negative attitudes toward their organizations, supervisors, and jobs (Rogelberg et al., 2000). We asked Directorate X focus group members to use a no/maybe/yes scale to indicate their intentions whether to participate in future online climate surveys. Only five individuals said “no.” Therefore, sample size limitations prevented meaningful analyses of *a priori* noncompliance in our study.

Nevertheless, our overall results suggested that Directorate X employees who did and did not complete the 2003 climate survey held similar climate perceptions. This is consistent with earlier research. Rogelberg et al. (2003) showed that, attitudinally, a student sample of survey respondents generalized well to the broader population from which it was drawn. Rogelberg et al. (2003) were able to empirically demonstrate that many of their nonrespondents intended to participate in the survey (even though they did not follow through on this intention).

The representativeness of the responder data in Rogelberg et al.’s (2003) study, as well as our own, is a function of the reasons driving nonresponse. Many of the reasons for nonrespondents’ nonparticipation seemingly involve factors (e.g., accidentally losing or forgetting about the survey) that are unrelated to the organizational attitudes of interest. Although unrelated to attitudes toward the organization, a number of the factors driving nonresponse could be related to survey recipients’ personalities. For example, people low in conscientiousness may be especially likely to accidentally lose their surveys or survey links. Rogelberg et al. (2003) addressed this possibility by warning readers that respondent samples may not be representative of their populations when the topic of the survey involves variables such as conscientiousness and agreeableness.

This raises a broader issue regarding the factors that may and may not be important determinants of nonresponse bias during an organizational survey. Perhaps nonresponse bias has less to do with whether nonrespondents are active or passive and more to do with the sources of nonresponse, their pervasiveness, and their relationship with the construct(s) being measured by the organizational survey. Figure 1 summarizes this viewpoint, offering a conceptual model of the factors driving nonresponse bias. This model helps explain why a preponderance of passive nonrespondents can skew the results of a conscientiousness survey even if they do not bias the results of a satisfaction survey. It also helps explain the nonresponse bias demonstrated in the examination of Research Question 1, when an online survey was used to measure attitudes toward online surveys. In that case, the sources of nonresponse, some of which were passive (e.g., computer problems), were strongly related

Figure 1
Conceptual Model of Factors Driving Nonresponse Bias



to the survey content (i.e., satisfaction with online surveys), thereby resulting in biased results. Examining the sources of nonresponse shown in Table 3, one might further predict unrepresentative results if we were to use a survey to measure employees' attitudes toward their employer's treatment of survey data (i.e., whether the leadership pays attention to survey results).

In sum, nonresponse bias is likely when organizations use surveys to measure constructs related to the very reasons why people intentionally or unintentionally withhold participation. This makes research illuminating the sources of nonresponse imperative.

Limitations

Clearly, the present study's limitations should be considered along with its findings and implications. For starters, the extent to which employees' self-reported participation in previous

surveys reflects their actual participation is unknown. Furthermore, common method variance may have been an issue, and the design of this study hinders our ability to conclusively establish a causal link from attitudes toward Web-based surveys to survey nonparticipation.

Many of the conclusions in this study are drawn from our in-depth analysis of Directorate X. We should remind readers that this was a nonrandom subset of the organization being examined. Conducting focus groups with a complete directorate, rather than a random sample drawn from the organization, was necessary to ensure the inclusion of active nonrespondents who withheld participation from the 2003 climate survey. However, the degree to which Directorate X members' results generalize to others within and outside of the organization is unknown.

As described earlier, special care was taken to increase candor on the surveys and during the focus group meetings. Even so, self-presentation concerns could have affected the accuracy of the information obtained from the participants in this research. Furthermore, it is possible that nonrespondents who are asked to indicate why they did not fill out a survey engage in some form of post hoc rationalization. That is, they may intentionally or unintentionally fabricate or invent reasons for their nonresponse that do not reflect reality.

Our conclusions pertaining to Research Question 3 must be interpreted with caution as well. Admittedly, accepting a null hypothesis of "no difference" is problematic. Moreover, our Directorate X sample sizes were rather small. The smallest *N* occurred when comparing employees who said they planned to participate in future climate surveys to their less committed counterparts who did not express a firm intention to complete forthcoming surveys. In these analyses, our group of less committed employees contained only 19 to 20 individuals. Although this modest sample size did not prevent us from detecting significant group differences in attitudes toward Web-based surveys, power may have been an issue when using the discriminant function analysis to examine group differences in climate attitudes. As a "rule of thumb," the smallest sample size in this analysis should be at least 20 when even just a few predictors are included.

Finally, it is important to reiterate that this study does not address the degree to which aversions to *paper* survey formats deter participation. Consequently, this research provides no information on whether the decision to move a survey from paper to the Web will affect response rates.

Practical and Research Implications

Its limitations notwithstanding, this field study may provide useful information for researchers and practitioners grappling with issues related to survey media and nonresponse. The data demonstrate that employees are not as comfortable with Web-based surveys as previously suggested. Moreover, aversions to online surveys can adversely affect response rates.

Although these aversions did not appear to produce nonresponse bias in the climate data, administering a climate survey in a format that more than one third of the workforce dislikes seems unwise. Negativity can result from those who want to provide input but do not feel comfortable doing so. Moreover, low response rates can cause other problems besides nonresponse bias (Luong & Rogelberg, 1998; Rogelberg & Luong, 1998; Rogelberg et al., 2000). For these and other reasons, a strategically located paper alternative to the ever-popular online survey may be a worthwhile investment. Although the results of this study do not

address whether the transition from paper to Web-based surveys will affect response rates, they do suggest that, all other things being equal, a Web-based survey administered along with an anonymous, convenient, paper alternative will yield higher response rates than an online survey alone.

Survey nonrespondents are commonly believed to be one of the most difficult populations to investigate (Rogelberg et al., 2003). From a methodological standpoint, the present study demonstrates a mechanism for capturing data from this elusive collection of individuals. As demonstrated in this research, focus groups can be used not only to collect attitudinal data from employees but also to gather reports of prior survey participation. They therefore provide a potentially powerful mechanism for examining survey nonresponse. Combining focus groups with retrospective reports of past survey participation may hold promise for future studies in this area. As such, researchers investigating survey nonresponse should consider how the procedures outlined in the present study might supplement their work. Practitioners should note that nonresponse studies such as those described in this article can be interventions in and of themselves. When properly conducted, they provide symbolic communication to the workforce by conveying the importance of the survey and indicating leaders' interest in employee opinions.

This research contributes to the literature by providing new insights into the ramifications of employees' aversions to the online survey modality. Moreover, this is the first study to assess the representativeness of attitudinal data gathered from workers who opt to take an online personnel survey. By examining the factors associated with nonparticipation, this research adds to what is known about passive and active nonresponse. As such, it speaks to Rogelberg et al.'s (2003) appeal for research exploring subclasses of active and passive nonresponse. The present study also proposes a conceptual model of the factors driving nonresponse bias. This model has theoretical and practical implications for future work on survey nonresponse.

Looking forward, additional studies are needed to better understand the reasons why some employees dislike Web-based survey media. Interventions for reducing concerns related to the online modality should also be tested. Would the availability of a kiosk or a paper survey alternative alleviate anonymity apprehensions? Research is needed to answer this question.

There is a clear need for follow-up work identifying additional reasons for nonresponse and their antecedents. Research examining interactions among organizational factors (e.g., the treatment of past survey results), survey factors (e.g., length, administration modality), and individual differences (e.g., cynicism, conscientiousness) would be valuable. A multi-level analysis across subunits or organizations that includes organizational or individual factors would provide a particularly strong contribution. Finally, studies designed to further pinpoint when nonresponse will and will not lead to nonresponse bias would help inform future research and practice in the area of employee surveys.

Notes

1. Initially, a focus group study across the organization was proposed. Because an organization-wide focus group study was deemed unfeasible at the time, a Web-based survey process questionnaire with a paper-and-pencil option was agreed upon. Of the 301 individuals who responded to this survey, only 1 chose the paper

option. After the data were collected, we discovered that the implementation of the paper alternative was far from ideal. It required too much effort to facilitate paper responding and probably did not alleviate anonymity concerns of those who disliked online surveys because of a fear of identifiability. Because 99.7% of the respondents completed this survey online, it is referred to as an *online* survey process questionnaire in the present study.

2. An examination of the 2003 climate survey revealed that only 25 people identified as Directorate X personnel took the survey (4 less than the number who identified themselves as respondents during the focus group). This discrepancy may have reflected purposeful inaccuracy or mistaken recall. Alternatively, some or all of the discrepant individuals may have indeed completed the 2003 survey without indicating the directorate to which they belonged, thereby preventing their data from being grouped with Directorate X's results in the 2003 survey analyses. Another possibility is that the individuals belonged to a different directorate at the time in which they took the 2003 survey.

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